



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/994,399

11/26/2001

Bruce C. Monk

AT-1

7853

7590

05/05/2004

Joseph E. Funk
PO Box 661
Londonderry, NH 03053

EXAMINER

CARTER, AARON W

ART UNIT

PAPER NUMBER

2625

DATE MAILED: 05/05/2004

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/994,399

Applicant(s)

MONK ET AL.

Examiner

Aaron W Carter

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 11-13, 31 and 33-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 11-13, 31 and 33-37 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is responsive to papers filed on January 29, 2004.

Response to Amendment

2. In response to applicant's amendment received on January 29, 2004, all requested changes to the claims have been entered. Claims 33-37 have been added. Claims 6-10, 14-30 and 32 have been cancelled.

Response to Arguments

3. Applicant's arguments with respect to claims 1-5, 11-13 and 31 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

4. Claims 1 and 31 are objected to because of the following informalities:

In claims 1 on lines 14 and 20 and in claim 31 on lines 18 and 24 the phrase "objects identified is step (b)" is grammatically incorrect, the "is" should be replaced with an "in". Appropriate correction is required.

5. Claims 5 and 34 are objected to because of the following informalities:

Claim 5 is dependent upon claim 1, claim 1 includes steps (a) – (d), claim 5 includes steps (h) and (i), steps (e), (f), and (g) are missing. Claim 34 is dependent upon claim 5 and

Art Unit: 2625

claim 34 includes the steps (g) and (h), now we have two (h) steps because both claim 5 and claim 34 have a step labeled (h). Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 11, 12, 13, 35 and 36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 11 recites the limitation "the first document" in line 17. There is insufficient antecedent basis for this limitation in the claim. Examiner will treat the phrase as though it reads "the object".

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 11, 13, 33, 35 and 37 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 4,519,041 to Fant et al. ("Fant").

8. As to claims 1, 11 and 31, Fant discloses a method for automatically processing objects of many different classes and types that are randomly presented to first identify the class of each object, then identify the type of object within an identified class of objects, the method comprising of:

(a) capturing a complete representation of an entire object that is presented to be identified (column 4, lines 46-49, column 6, lines 49-52, and column 6, line 60 – column 7, line 3, wherein the data camera is constantly creating image data of the slab and when an imperfection is found a bin is created for storing the image data of the entire imperfection, where imperfection corresponds to object);

(b) determining a first characteristic for each object presented to be identified using its complete representation captured in step (a), the first characteristic being used to identify one class of object from another class of object (Fig. 8, column 7, line 67 – column 8, line 1, column 13, lines 29-34 and column 16, lines 40-54, wherein determining the object area size (PA) corresponds to determining a first characteristic which is used to determine between the classes of objects, in this case Noise or Imperfection);

(c) retrieving a set of second characteristics for each object presented to be identified whose complete representation is captured in step (a) (Fig. 14a and column 16, lines 55-62, wherein the length, width, average length and width, and average geometric length and width correspond to a set of second characteristics retrieved) and whose class of object is identified in step (b), the second set of characteristics being used to identify the type of object from amongst the class of objects identified in step (b);

(d) analyzing individual characteristics from the second set of characteristics retrieved in step (c) with characteristics actually in the complete object representation captured in step (a) to identify the type of object from amongst the class of objects identified in step (b) (Fig. 14a and column 16, lines 55-62, wherein the characteristic are analyzed to determine if their correspond imperfection is of the line imperfection type or area imperfection type).

As to claims 33, 35 and 37, Fant discloses the method for automatically processing objects according to claims 1, 11 and 31, where identified objects are to be verified, and further comprising the steps of:

(e) retrieving a set of reference information unique to each type of object that is identified in step (d) (column 8, lines 10-16, column 18, lines 20-55 and column 19, lines 16-22, wherein the feature vectors unique each type of object that is identified are retrieved); and

(f) analyzing each object whose complete representation is captured in step (a) using the unique set of reference information retrieved in step (e) to verify if the type of object identified in step (d) is genuine, counterfeit, or has been altered (column 8, lines 10-16, column 18, lines 20-55 and column 19, lines 16-22, wherein after classify the imperfection is determined whether or not the imperfection is genuine or if it is part of a larger imperfection).

As to claims 2 and 13, Fant discloses the method in accordance with claims 33 and 35, further comprising the step of:

(g) providing an indication that an object is genuine, counterfeit or has been altered based upon the results of analysis performed in step (f) (column 9, lines 13-14).

As to claim 3, Fant discloses the method in accordance with claim 1, wherein the determination of a first characteristic performed in step (b) is to determine the size of an object being processed, all objects that may be identified and verified are divided into size ranges and each class of objects includes all objects having the same size (Fig. 8, column 7, line 67 – column 8, line 1, column 13, lines 29-34 and column 16, lines 40-54, wherein determining the object area size (PA) corresponds to determining a first characteristic which is used to determine between the classes of objects, in this case Noise or Imperfection).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5, 12, 34 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fant as applied to claims 1 and 11 above, and further in view of USPN 5,933,526 to Sklarew.

10. Fant discloses the method for automatically processing objects in accordance with claims 1 and 11.

Fant does not expressly disclose the steps of:

(h) ordering all object types that are identified in step (d) from the most commonly identified type of objects to the least commonly identified type of objects

(i) selecting the retrieved characteristics from step (c) for use in step (d) starting with characteristics for the most commonly identified object type and progressing to the least commonly identified object type.

Sklarew teaches a method of identification in which characteristic of the objects to be identified are compared to characteristic of known objects in a database/memory (Fig. 7 and column 14, lines 10-14). Sklarew goes on to teach us to that the most frequently identified objects are the first to be compared with the objects to be identified (column 14, lines 17-20, and Fig. 7, element 120).

Fant & Sklarew are combinable because they are from they are both in the field of identifying objects using image processing. The lesson taught by Sklarew is completely compatible and usable with the identification method of Fant.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the invention of Fant with the teachings of Sklarew.

The suggestion/motivation for doing so would have been providing the invention of Fant with the ability to keep track of the most commonly identified objects and starting the comparison step with that objects characteristics, providing the invention with the advantage of increased performance by reducing the time to determine a match (column 14, lines 19-20).

Therefore, it would have been obvious to combine Fant with Sklarew to obtain the invention as specified in claims 5 and 12.

As to claims 34 and 36 please refer to the rejections made for claims 33, 35 and 37 above.

Allowable Subject Matter

11. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


US Patent 6,697,516 to Alexandre discloses a method of determining first and second characteristics of an object, and using them to identify the object.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron W Carter whose telephone number is (703) 306-4060. The examiner can normally be reached on 7am - 3:30 am (Mon. - Fri.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


awc


BHAVESH M. MEHTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600